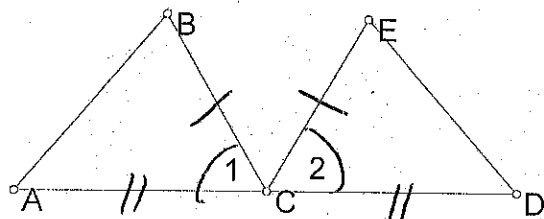


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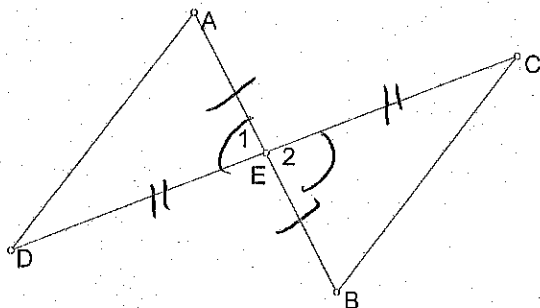
Chapter 4: Proofs

1. Given: $\overline{BC} \cong \overline{EC}$; $\angle 1 \cong \angle 2$
 C is the midpoint of \overline{AD}
 Prove: $\triangle ABC \cong \triangle DEC$



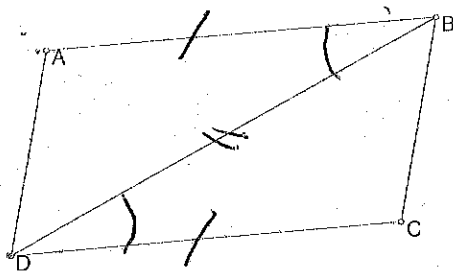
Statements	Reasons
① ~	①
② $\overline{AC} \cong \overline{DC}$	② Def of midpoint
③ $\triangle ABC \cong \triangle DEC$	③ SAS

2. Given: E is the midpoint of \overline{AB} and \overline{CD}
 Prove: $\angle D \cong \angle C$



Statements	Reasons
① ~	①
② $\overline{AE} \cong \overline{BE}$ $\overline{DE} \cong \overline{CE}$	② def of midpoint
③ $\angle 1 \cong \angle 2$	③ Vert \angle s \cong
④ $\triangle AED \cong \triangle BEC$	④ SAS
⑤ $\angle D \cong \angle C$	⑤ CPCTC

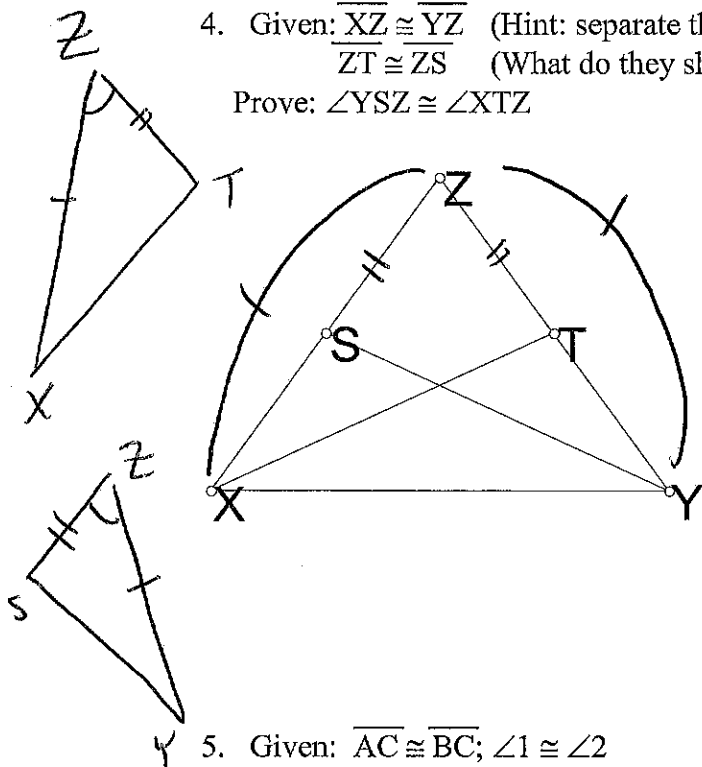
3. Given: $\overline{AB} \cong \overline{CD}$; $\angle ABD \cong \angle CDB$
 Prove: $\overline{AD} \cong \overline{CB}$



Statements	Reasons
① ~	①
② $\overline{BD} \cong \overline{BD}$	② Refl
③ $\triangle ABD \cong \triangle CDB$	③ SAS
④ $\overline{AD} \cong \overline{CB}$	④ CPCTC

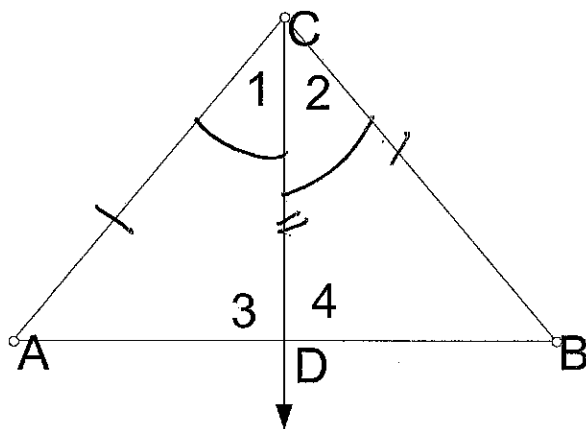
4. Given: $\overline{XZ} \cong \overline{YZ}$ (Hint: separate the triangles)
 $\overline{ZT} \cong \overline{ZS}$ (What do they share?)

Prove: $\angle YSZ \cong \angle XTZ$



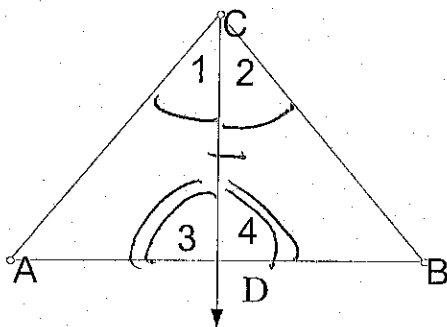
Statements	Reasons
① \sim	① Given
② $\angle Z \cong \angle Z$	② Reflexive
③ $\triangle YSZ \cong \triangle XTZ$	③ SAS
④ $\angle YSZ \cong \angle XTZ$	④ CPCTC

5. Given: $\overline{AC} \cong \overline{BC}$; $\angle 1 \cong \angle 2$
 Prove: $\triangle CDA \cong \triangle CDB$



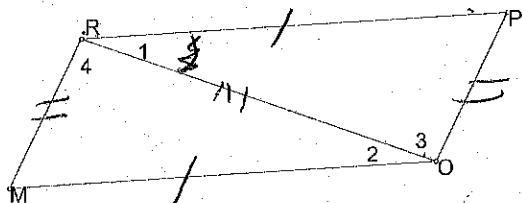
Statements	Reasons
① \sim	① Given
② $\overline{CD} \cong \overline{CD}$	② Refl.
③ $\triangle CDA \cong \triangle CDB$	③ SAS

6. Given: \overrightarrow{CD} bisects $\angle ACB$; $\angle 3 \cong \angle 4$
 Prove: $\angle A \cong \angle B$



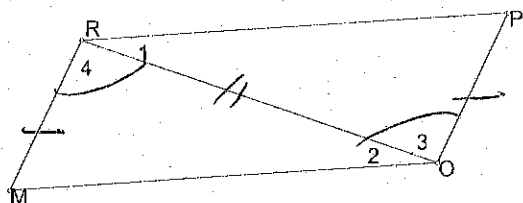
Statements	Reasons
① \sim	①
② $\overline{CD} \cong \overline{CD}$	② Refl.
③ $\angle 1 \cong \angle 2$	③ Def \angle Bis
④ $\triangle ACD \cong \triangle BCD$	④ SAS
⑤ $\angle A \cong \angle B$	⑤ CPCTC

7. Given: $\overline{MO} \cong \overline{PR}$; $\overline{RM} \cong \overline{OP}$
 Prove: $\angle 1 \cong \angle 2$



Statements	Reasons
① \sim	① Given
② $\overline{RO} \cong \overline{RO}$	② Refl.
③ $\triangle RPO \cong \triangle OMR$	③ SSS
④ $\angle 1 \cong \angle 2$	④ CPCTC

8. Given: $\overline{RM} \cong \overline{OP}$; $\angle 3 \cong \angle 4$
 Prove: $\angle 1 \cong \angle 2$



Statements	Reasons
① \sim	①
② $\overline{RO} \cong \overline{RO}$	② Refl.
③ $\triangle RPO \cong \triangle OMR$	③ SAS
④ $\angle 1 \cong \angle 2$	④ CPCTC